What is claimed is:

[Claim 1] An apparatus to traverse a seabed topographic feature, comprising:

a subsea pipeline constructed to carry fluids from a first location to a second location;
said pipeline including at least one distributed buoyancy region;
said pipeline comprising a first pipeline section extending from said first location to said distributed buoyancy region and a second pipeline section extending from said distributed buoyancy region to said second location; and
said distributed buoyancy region connecting said first and said second pipeline sections in fluid communication.

[Claim 2] The apparatus of claim 1 wherein the topographic feature is selected from subsea basins, domes, valleys, cliffs, canyons, and escarpments.

[Claim 3] The apparatus of claim 1 wherein said distributed buoyancy region comprises a plurality of discrete buoyancy-providing modules distributed along a length of said pipeline.

[Claim 4] The apparatus of claim 1 wherein said distributed buoyancy region comprises a continuous coating of buoyant material.

[Claim 5] The apparatus of claim 1 further including a tether system to retain said pipeline in position and to resist forces of undersea currents.

[Claim 6] The apparatus of claim 1 wherein said first and said second pipeline sections are negatively buoyant.

[Claim 7] The apparatus of claim 1 wherein said first and said second pipeline sections are positively buoyant.

[Claim 8] The apparatus of claim 1 further including a first flexure control device at said first location to reduce bending stress and strain in said first pipeline section.

[Claim 9] The apparatus of claim 8 wherein said first flexure control device is located proximate to a cliff edge of the topographic feature.

[Claim 10] The apparatus of claim 9 wherein said first flexure control device includes a flex joint.

[Claim 11] The apparatus of claim 9 wherein said first flexure control device includes a stress joint.

[Claim 12] The apparatus of claim 9 wherein said first flexure control device includes a swivel.

[Claim 13] The apparatus of claim 9 wherein said first flexure control device includes an anchor.

[Claim 14] The apparatus of claim 9 wherein said first flexure control device is located between said first pipeline section and said distributed buoyancy region.

[Claim 15] The apparatus of claim 14 wherein said distributed buoyancy region comprises negatively buoyant section.

[Claim 16] The apparatus of claim 14 wherein said distributed buoyancy region is positively buoyant.

[Claim 17] The apparatus of claim 9 wherein said first pipeline section is located between said first flexure control device and said distributed buoyancy region.

[Claim 18] The apparatus of claim 17 wherein said first pipeline section is taut and is positioned above said first flexure control device.

[Claim 19] The apparatus of claim 18 wherein said second pipeline section is negatively buoyant.

[Claim 20] The apparatus of claim 9 wherein said second pipeline section extends from said distributed buoyancy region to a second flexure control device located at said second location and configured to reduce bending stress and strain in said second pipeline section.

[Claim 21] The apparatus of claim 20 wherein said first flexure control device is located between said first pipeline section and said distributed buoyancy region.

[Claim 22] The apparatus of claim 21 wherein said second pipeline section is taut and is positioned above said second flexure control device.

[Claim 23] The apparatus of claim 20 wherein said first pipeline section is located between said first flexure control device and said distributed buoyancy region.

[Claim 24] The apparatus of claim 23 wherein said first pipeline section is taut and positioned above said first flexure control device, and said second pipeline section is taut and positioned above said second flexure control device.

[Claim 25] The apparatus of claim 8 wherein said first flexure control device is located distant to a cliff edge on the topographic feature.

[Claim 26] The apparatus of claim 25 wherein said first flexure control device is located between said first pipeline section and said distributed buoyancy region.

[Claim 27] The apparatus of claim 26 wherein said distributed buoyancy region is positively buoyant.

[Claim 28] The apparatus of claim 25 wherein said first pipeline section is located between said first flexure control device and said distributed buoyancy region.

[Claim 29] The apparatus of claim 28 wherein said first pipeline section is taut and positioned above said first flexure control device.

[Claim 30] The apparatus of claim 28 wherein said second pipeline section is negatively buoyant.

[Claim 31] The apparatus of claim 28 wherein said second pipeline section extends from said distributed buoyancy region to a second flexure control device located at said second location to reduce bending stress and strain in said second pipeline section.

[Claim 32] The apparatus of claim 31 wherein said first pipeline section is taut and positioned above said first flexure control device and said second

pipeline section is taut and positioned above said second flexure control device.

[Claim 33] The apparatus of claim 1 further including a flexure control device at said second location to reduce bending stress and strain in said second pipeline section.

[Claim 34] The apparatus of claim 33 wherein said second pipeline section is taut.

[Claim 35] A method for traversing an undersea topographic feature with a subsea pipeline, comprising:

laying a negatively buoyant first section of the pipeline from a pipelay vessel from a first location on a sea floor;
laying a distributed buoyancy section of the pipeline from the pipelay vessel over the topographic feature to be traversed, the distributed buoyancy section being positively buoyant; and
laying a second negatively buoyant section of the pipeline from the pipelay vessel to a second location on the sea floor.

[Claim 36] The method of claim 35 wherein the first section, the distributed buoyancy section, and the second section of subsea pipeline are joined together aboard the pipelay vessel and laid as a single continuous pipeline.

[Claim 37] A method for traversing an undersea topographic feature with a distributed buoyancy pipeline, comprising:

installing a first completed pipeline terminating at a first connection device;
installing a second completed pipeline terminating at a second connection device;
laying the distributed buoyancy pipeline across the topographic feature from a laying vessel, the distributed buoyancy pipeline having a first mating device at a first end and a second mating device at a second end;
landing the first mating device proximate to the first connection device;
landing the second mating device proximate to the second connection device;

installing a first fluid connection between the first connection device and the first mating device; and

installing a second fluid connection between the second mating device and the second connection device.

[Claim 38] The method of claim 37 wherein the installation of the first and second fluid connections is completed by a subsea remotely operated vehicle.

[Claim 39] The method of claim 37 further comprising guiding the first mating device into proximity with first connection device with a towing vessel tethered to the first mating device.

[Claim 40] The method of claim 37 further comprising guiding the second mating device into proximity with the second connection device with a towing vessel tethered to the second mating device.

[Claim 41] The method of claim 37 further comprising guiding the first mating device into proximity with the first connection device with a subsea remotely operated vehicle.

[Claim 42] The method of claim 37 further comprising guiding the second mating device into proximity with the second connection device with a subsea remotely operated vehicle.

[Claim 43] The method of claim 37 wherein the first mating device includes a suction piling.

[Claim 44] The method of claim 37 wherein the second mating device includes a suction piling.

[Claim 45] A method for connecting a first pipeline to a second pipeline across an undersea topographic feature, comprising:

laying a distributed buoyancy pipeline across the topographic feature from a laying vessel, the distributed buoyancy pipeline having a first mating device at a first end and a second mating device at a second end;

landing the first mating device proximate to a first connection device of the first pipeline;

landing the second mating device proximate to a second connection device of the second pipeline;
installing a first fluid connection between the first connection device and the first mating device; and
installing a second fluid connection between the second mating device and the second connection device.

[Claim 46] The method of claim 42 wherein the installation of the first and the second fluid connections is completed by a subsea remotely operated vehicle.

[Claim 47] The method of claim 42 further comprising guiding the first and second mating devices into proximity with first and second connection devices with a tethered towing vessel.

[Claim 48] The method of claim 42 further comprising guiding the first and second mating devices into proximity with first and second connection devices with a subsea remotely operated vehicle.